California Antique Radio Gazette

Official Journal, Southern California Antique Radio Society.

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Southern California Anitique Radio Society

Incorporated, Non-profit Organization

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SCARS is a non-profit organization. Its purpose is to preserve the history of wireless communication by encouraging the acquisition, preservation and exhibition of antique wireless and radio apparatus and publications pertaining to its history and development.

SCARS promotes social contacts through meetings held four times a year at various locations in Southern California. Featured at these meetings are contests, swap sessions and talks by members and guests on subjects of interest to collectors.

The club publishes quarterly the California Antique Radio Gazette which features news of club activities, hints on restoration, and advertisement of radio related items for sale or trade. It is furnished free to all members. Ads are printed free for members. SCARS assumes no responsibility for the condition of items sold at swap meets or through gazette ads.

Membership is open to anyone having a genuine interest in preserving equipment and history of early wireless and radio equipment. Dues are $10.00 per calender year.

ADDRESS INQUIRES TO:

Official Correspondence ..... **Robert Baumbach**
Application to Join ..... **Pam Davies**
Submittal of Dues ..... **Dan Mason**
Gazette Articles and Ads ..... **Joe Knight or Bruce Stark**

The opinions expressed in the Gazette are those of the authors and may not reflect the opinions of the editors or the SCARS menbership.

This entire publication was printed using recycled fiber.

S.C.A.R.S.

VAN NUYS MINI MEET

SEPTEMBER 21, 1991

15520 Sherman Way Van Nuys, Calif.

7:00 AM	Buy, sell, trade activities
11:00 AM	Lunch, catered by, Dr. Hogly Wogly's Tyler Texas B-B-Q
12:00 Noon	Show and tell activities
1:00 PM	Adjourn

Contact Bruce Stark for more information (818) 988-5478

President's message

This month's meet sees the return of an activity that has been missed by many members: the contest. Richard Grey has enthusiastically volunteered to conduct the contest for us this month. He stated that his schedule will not allow him to perform this function on a regular basis, however, so if you have been yearning to show off one or more of your prize radios, don't let this opportunity pass you by. This may be one of your last chances to enter a SCARS contest.

Unless, that is.....

you would like to run a future contest. Observe this month's contest and notice how much fun Richard is having.....Observe how easy it is to chair the contest.....Note that the chairman gets to chose the categories (are you tired of never seeing clock radios get the attention they deserve?) THIS IS YOUR CHANCE.

If you would like to chair one or more upcoming contests, talk to me at the next meeting. Richard or I will be happy to share ideas and suggestions with you for making the job easy and fun. Remember that the value of the club is equal to the effort put into it by its members.

Bob Baumbach

Upcoming SCARS Meets:

Aug 17, 1991
VELVET TURTLE
3210 West Sepulvada Blvd
Torrance,CA

AUG. MEET, TORRANCE

7:00 AM Buy, sell, trade activities
9:45 AM Set up for contest
10:30 AM All contest items in
11:00 AM Business meeting
11:30 AM Lunch
12:00 PM A talk on the art of collecting paperwork by Delton Johnson and Paul Thompson.
1:00 PM Contest results
1:30 PM Adjourn

LUNCHEON ANNOUNCEMENT

The Velvet Turtle lunch is $7.00 per person. Send your money to Murrel Crump, 1633 Buena Vista Palm Springs, CA 92262. Get in on the August meeting lunch and beat the deadline of the 9th of August. Make checks payable to SCARS.

NOTE

All sellers will be charged a $3.00 sellers fee. Please cooperate with those collecting the money, we are all volunteers.

NOTICE

Only SCARS members may sell at SCARS meets.

MEMBERSHIP DUES

Effective immediately, send all new and renewal dues payments to:

Dan Mason
1325 N. Lima St.
Burbank, CA 91505

THE PEE WEE RADIO

by Floyd A. Paul

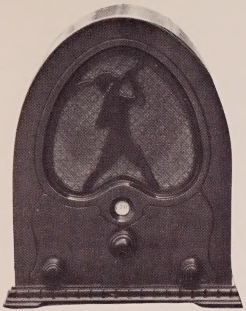
Los Angeles was indeed the midget capital of the world in late 1929 and the spring of 1930. Midget radios (often called cathedrals or beehives) were typically 15 to 20 inches tall and partially got that name because most radio sets marketed in the 1929 era were consoles and the mantel set was a midget compared to contemporary radios of that time period. By late 1930 some large Eastern radio manufacturers were making midgets. What else might the Los Angeles market make besides midgets? It would make sense to make a small midget. The name "super midget" was tried but super had another meaning. It was short for superheterodyne and it appeared that the smaller sets were typically a TRF design to minimize parts, overall design, and hence cost. The name that caught on was "Pee Wee."

The first magazine believed to have used that name was Western Music and Radio Trades Journal (WM&RTJ). A January 1931 article in WM&RTJ noted, "Pee Wee--Beginning with the lowest priced merchandise the newest thing on the horizon is the 'Pee Wee' midget. If we thought midgets were small in their beginning our ideas will have to be entirely overhauled. The Pee Wees are about as high as a desk phone, about 9 inches wide and 7 inches deep. Most of them use 5 or 6 tubes, and have a very compact chassis, with a small dynamic speaker. Strange to say, they have a very good tone in spite of their lack of much baffle board. Weight is about 14 lbs. . . . True, they are a novelty, but their genuine portability is a feature that cannot be denied."

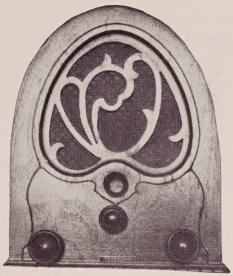
"Right now, they are very much in demand: seven Western factories are making them and more have them in contemplation. They are listing from $39.50 to $49.50 complete." (Author's note: it is believed Pee Wee generally described a set which was under 15 inches in height, although no exact height was ever stated for a Pee Wee set.) The author likes to define a Pee Wee as under 13 inches but that is strictly an arbitrary choice.

Although Los Angeles was making Pee Wee sets in the spring of 1931, by late 1931 some Eastern manufacturers were coming to market with Pee Wees. Pee Wees tended to be "cheapies" which dealers did not want to sell because the profit on Pee Wee radios was low. Retail prices on Pee Wees were tumbling by the month in mid 1931 on the West Coast from $39 to $49 down to $25 to $30.

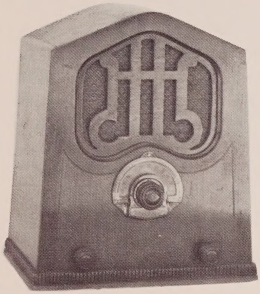
The author has seen a few Pee Wee sets including his own with no name on them. They were most



JACKSON BELL, Peter Pan
(Richard Gray Collection)

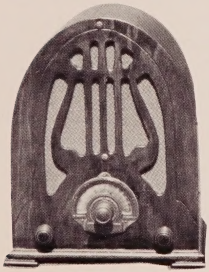


FLINT, Peter Pan
(Deanna Hames Collection)

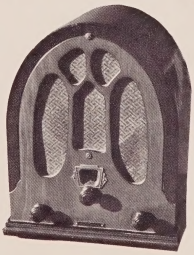


UNKNOWN MAKE
4 Tubes, 11-1/2" high
(Floyd Paul Collection)

JACKSON BELL, Model 4
(Mark Kunkel Collection)



GILFILLAN DECAL, Lark, 11" high
(John Stokes Collection, N.Z.)



HERBERT HORN, Tiffany Tone
(Carol Leeth Collection)

likely not made at Gilfillan Bros. but rather by radio assemblers who made a quick dollar and dropped from sight after a few weeks. Some companies such as Waltham advertised "our set could be sold under your trade name" hence some sets may show up with unique names or even no names. A few sets such as the Waltham "Metropolitan" and American "Novo Jr." used a type 45 power output tube. A typical power output tube was type 47. There should be considerably more audio output using the latter tube. Pee Wee cabinets were all made of wood.

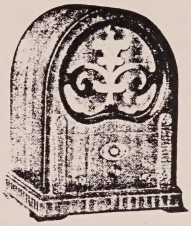
In the following paragraphs all advertisements of Los Angeles-made Pee Wee sets are from the year 1931 and from the magazine WM&RTJ unless otherwise noted.

January	American Labs., Novo Jr., 12 1/2" high, 5 tubes, $49.50
February	Waltham Radio Corp., Metropolitan, 12 1/2" high, 4 tubes, $19.00 dealer cost
February	Keller-Fuller, Model 50 or Junior Radiette, 13" high, 5 tubes, $49.50
March	Dwarf Radio Mfg., Dwarf 12 1/2" high, 5 tubes, $49.50
April	Los Angeles Radio Mfg., Paramount-Pee Wee, 11 1/2" high, 4 tubes, $17.95 dealer cost.
June	Flint, Peter Pan, 11" high, 4 tubes, $24.95.

In July, Los Angeles Radio Mfg. Co. advertised another Paramount-Pee Wee radio, "sell direct to dealers at a net price of $17.95, complete with Arcturus tubes, $16.95 in quantities of 5, inside measurements 9 3/8" high, 7 1/2" wide." (See pear shape grille design in ad illustrations.) By August the price was reduced to $16.95 net to dealers, $15.95 in quantities of 6. It would appear this set used 4 tubes, 2-24s, a 47, and an 80. (Editor: Note the attempt to sell by using inside dimensions of the cabinet.) In August, International Radio Corp. advertised the mighty little "Pandora" for $24.95. It was apparently marketed under other trade names, one of which was "Gloria" and it was distributed from 695 S. Vermont in Los Angeles. The author has a Gloria circular sheet noting "come in and look at this set, for sale at $14.95 complete, wholesale." This set was also advertised as a "A Mighty Mite" by exclusive sales representatives R.J. Noel Co. in November of 1931. Los Angeles Radio Mfg. Co.'s August ad noted its Paramount "Kewpie" was $13.95 net to dealers, retail price of $24.95 (4 tubes). Radio Retailing (RR) magazine of August had a picture of a "Cinderella" superhet by Cardinal Radio Mfg.Co. with 5 tubes and 11" high. Advance Electric had a Falck model E listed in Rider's Perpetual Trouble Shooter's Manuals with a date of 7-18-31 noted on the schematic

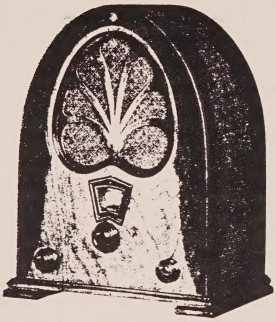
AMERICAN LABS
Novo Jr.

WALTHAM RADIO
Metropolitan

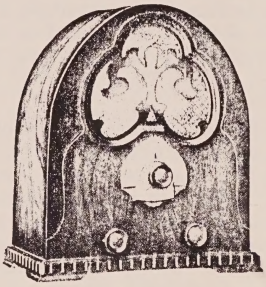


LOS ANGELES RADIO
Paramount Pee Wee

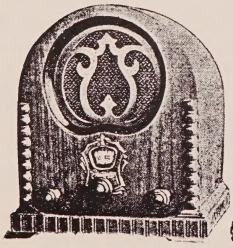
PEE WEE SETS



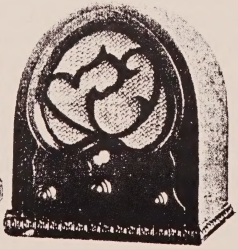
WILLARD RADIO, The Willard



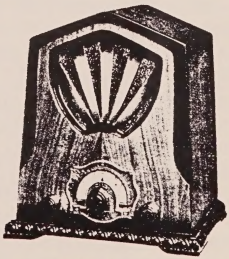
INTERNATIONAL RADIO, Pandora, Gloria (later SEABOARD, Junior)



Pee Wee



Kewpie



"A Midget free with every meal"

LOS ANGELES MANUFACTURING COMPANY, Paramount Line

diagram. It used a 35, 24, 47, and 80 tube. The set was likely marketed in August or September. Radio magazine in August advertised a Peter Pan, made by Jackson Bell and selling for $24.95 with 4 tubes. By October RR magazine listed a Trojan Factories "Tiny" at $29.75, an 11" high Pee Wee. In November, a Waltham Radio "runt" set with 4 tubes was advertised at $24.95 complete. The set was adorned with a running deer statuette grille over the speaker cloth. The set appears to be about 12" high. Herbert Horn marketed a 4 tube Pee Wee (most likely in the fall of 1931) with two 24s, a 47, and an 80 and they gave it the trade name Tiffany Tone.

Seaboard advertised a "Junior" in Radio magazine of February 1932 for $11.95 net cash and it was 11 1/2" high. (Author: Seaboard's Junior appears to be identical to the International Radio set called "Pandora" which was marketed in August of 1931. Seaboard may have been a successor to International Radio.) . In March of 1932 Willard Radio Corp advertised a set in Radio at $7.98 less tubes (4 tubes) and 11 1/2" high. Los Angeles Radio Mfg. advertised in Radio of March 1932 "a midget radio free with every meal," $7.65 net to dealers less tubes, and $8.75 with tubes. Also Los Angeles Radio in March of 1932 advertised in Radio a Paramount-Pee Wee set reduced to $12.95 with Arcturus tubes, to dealers. (Author: The company had marketed the set at $16.95 in July of 1931.) El Rey Mfg. in March of 1932 in Radio advertised a 4 tube, TRF for $7.45 net. Jackson Bell also brought two more Pee Wee sets to market in 1932. A model 25, 12 1/2" high was shown in the Jackson Bell article in the August 1988 Gazette. Another Pee Wee is a model 4 using two 57s, a 47, and an 80 tube.

By the fall of 1931 dealers across the nation reported "selling up," meaning turning the buyer away from the tiny midgets to higher priced radio merchandise. An october 1931 RR magazine editorial described radio merchandising of the New York Radio World's Fair as "Less radio for less money, is an unpleasant observation . . . Many concerns are out with a still smaller midget usually embodying 4 tube circuits . . . in cabinets 'not so good' . . . general interest in small sets was slight . . ." Many magazine editorials in late 1931 and into 1932 were negative toward samll midgets. In the spring of 1932 Pee Wee set prices including tubes were under $10.00 per set to dealers and these sets were hurting the radio retail business with minimum profits.

In 1932 United States Radio & Television, Emerson, and Crosley among other giant Eastern radio producers had brought Pee Wees to market. By 1933 it appeared the Pee Wee was running out of steam. By the spring of 1933 low flat rectangular styling was becoming popular. All the giant manufacturers in the East were making them including : RCA, Emerson, Fada, GE, Stewart Warner, De Wald, Grebe, and Crosley. The Pee Wee

Continued on Page 13

ODD CIRCUTS IN THE DEVELOPMENT OF RADIO

(As Seen From Todays Vantage Point)

By Bruce McCalley

If you have a collection of radio magazines from the Twenties and early Thirties, and you have any technical interest in the radio circuits used, you will have no doubt noted that the vast majority of the radios were of the tuned radio frequency (TRF) type. All TRF receiver circuits, during the twenties, looked almost the same, regardless of the manufacturer. The advantages of one set over another relied more on the design of the coils and on the parts layout than on changes in the wiring diagram.

Perhaps the earliest "odd" circuit was the regenerative detector, most often used in sets with no radio frequency amplifier stages ahead of the detector. The sensitivity of the regenerative detector could match any but the most complicated of radio circuits but it had several drawbacks.

Only Major Armstrong, the inventor, would know just how the regeneration idea came about but one could speculate that it was more by accident than by design. It may been that he felt that if the signal were amplified by a tube, and then that amplified signal was fed back to the tube's input, and the process repeated a few times, that infinite amplification could be had in a single stage. Great idea, and perhaps he discovered the oscillator about then (if he was the discoverer). This feedback principle does work up to the point that continuous oscillations occur, and amplification is great just before the circuit begins to oscillate.

The regenerative detector, using some control method to regulate the amount of feedback, became the basis for almost all of the single-dial radios in the Twenties, and continued as about the only receiver design for short waves until the early Thirties.

An offshoot of the regenerative detector was the super-regenerative detector, also invented by Armstrong. In this circuit, the tube is allowed to go into oscillation, giving further amplification, but the oscillation was blocked (stopped, if you will) at a supersonic rate. This blocking was accomplished by either another oscillator tube connected so as to stop the detectors oscillation at a given rate, or by designing the detector so that the circuit would stop itself at a supersonic rate. This circuit gave even greater amplification that the standard regenerative type, but was noisy and gave considerable distortion to the sound output. Superregenerative detectors were used well into the Thirties for very high frequency circuits.

Both of these circuits had drawbacks. They were critical in adjustment; a feature frowned upon by the general public. They became transmitters when they went into oscillation, causing interference with other receivers in the area. (Such sets were commonly called "bloopers" in those days.) They were not as selective as the TRF sets.

Two more developments came along in the early Twenties: the superheterodyne (also an Armstrong invention) and the neutrodyne. Let's look at the neutrodyne first.

The only tubes available in those days were triodes. Triodes make good amplifiers at lower frequencies but as the frequency rises, they tend to go into oscillation (like the

regenerative detectors). The common system used to prevent this oscillation was to lower the operating voltages of the tubes, or to use some form of loss circuit (generally a resistor in the grid circuit). Circuit layout, and coil design greatly affected the oscillation point. Hazeltine discovered that if you fed the signal back to the grid, reversed in phase, that the oscillation could be "neutralized" and much greater amplification could be had. Neutrodyne receivers became the favored type during the later Twenties and very early Thirties.

Armstrong's superheterodyne tried another approach. As we noted above, triodes would not oscillate easily at lower frequencies, perhaps as high as seventy kHz, depending on the circuit. In the superheterodyne, the incoming signal is converted to a lower frequency, commonly 50 kHz in those days, and several of these low frequency stages could give great amplification.

The conversion is done by combining the input signal with an oscillator signal in what is called the "first detector." The output of the first detector would be the input signal, the oscillator signal, the sum of the two signals, and the difference between the two signals. If the oscillator was adjusted 50 kHz above or below the input signal, the difference signal of 50 kHz (called the intermediate frequency or IF) was then amplified and detected. The other frequencies were "lost" in the 50 kHz amplifier.

The problem with the 50 kHz superheterodyne was that it was difficult to tune. Because of the oscillator being able to create the intermediate frequency at two places on the dial (50 kHz above or below the signal), and that if there happened to be two signals 100 kHz apart on the air, both of which would result in the same 50 kHz IF, it took some skill to bring in a desired signal.

The superheterodyne patent was assigned to RCA, and other than some of the kit manufacturers, RCA was the only licensed producer of superheterodynes until late 1930.

A wild variation of the superheterodyne was called the Infradyne. Here, the sum of the oscillator and input signal were used as the IF. The IF frequency was about three megahertz. Here is where one might question the idea.

If a triode would oscillate at broadcast frequencies, it sure ought to do it even easier at even higher frequencies. The Infradyne used an IF amplifier which used three '99 tubes. It wasn't called an "IF" amplifier, it was called an "infradyne" amplifier.

The Infradyne was the brainchild of E. M. Sargent, and the amplifier was manufactured by Remler. The circuit was touted almost exclusively in *Radio* magazine, beginning in August 1926 and for about a year later. In general, the Infradyne receiver used two radio frequency stages ahead of the first detector and that is where most of the amplification occured, no doubt. *Radio* ran many articles on this design, and even showed how to convert some of the TRF sets into Infradynes. Some circuits even had switches to disconnect the Infradyne amplifier, reverting to the original TRF circuit. I have often wondered which configuration worked the best.

The advent of the tetrode tube in the late Twenties was the death blow to the neutrodyne, and opened the door to improving the superheterodyne by allowing a higher IF frequency. The superheterodyne languished for a time, though, until RCA licensed others to use the

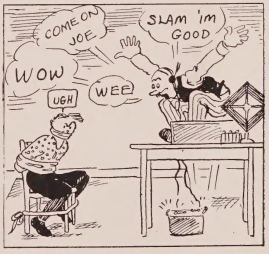
circuit. In 1931 the swing to the superheterodyne was begun in earnest.

At first it was believed that 175 kHz would be the highest intermediate frequency practical. Mainly this was due to the second detectors used, which created harmonics of the IF which interfered with the broadcast signal. The advent of the diode detector greatly reduced the problem, and the intermediate frequencies rose to the 455 kHz range, which remains the standard to this day.

Another odd-ball was the so-called Stenode Radiostat, touted in *Radio News* in the early Thirties. Invented in England, the Stenode was a superheterodyne with a crystal filter in the IF amplifier, not unlike that used in communications receivers. The idea was to make the set so selective that it could separate stations less than 10 kHz apart! The inventor insisted that all frequencies were amplified, in spite of the almost zero bandwidth, and the *Radio News* articles went to great lengths to prove that the side-band theory was all wrong.

The reasoning was that if a signal was tuned on and off, it needed no sidebands to be understood. (Typical code transmission.) Carrying this further, if the rate of the on-off status were increased to audio frequencies, there still would be no loss. Great idea, but seriously flawed. It didn't take a genious to discover that there was great high frequency attenuation in this design, so the audio amplifier was designed to amplify the highs more than the lows. In any event, after about a year, the Stenode died a natural death. Crystal filters are still used, of course, but not for "broadcast quality" reception.

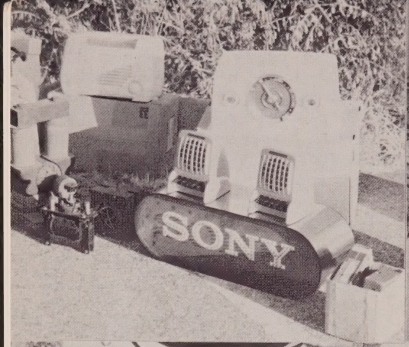
The universal move to the superheterodyne circuit in the early Thirties pretty much solved the problems which the other circuits were meant to overcome. The Thirties saw the development of radio receivers to their highest level; all waves, high fidelity, automatic volume control, automatic tuning — you name it. The Thirties were truly the Golden Years of Radio.

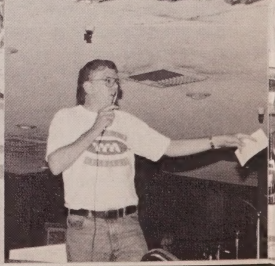


RADIO HORN

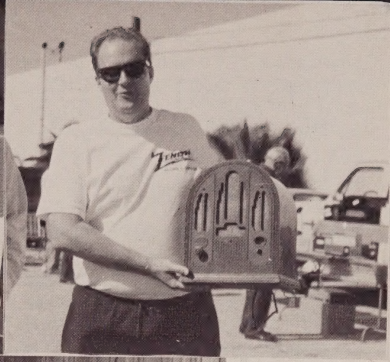
Made of 4-ply black cardboard, knocked down, ready to glue together. 50c, prepaid.

50c


SONY



Emerson
Television and Radio



RCA
5B20

FIRST SET FEVER

THE MAJESTIC MODEL 59

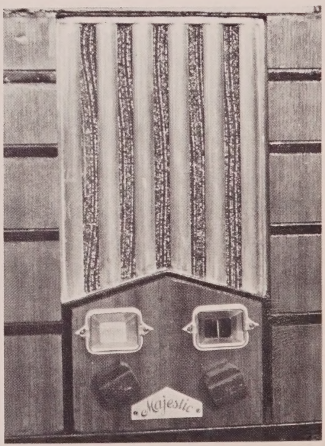
By Darryl Kasch
Queensland, Australia

Back in late 1985, I was searching for a radio that was capable of receiving Sydney stations from Orange, N.S.W., a good three hours' drive away! A good transistor radio in the form of a communication receiver would do the job, but the prohibitive price of a $1000 plus, quickly had me forgetting this idea. I soon discovered that a fellow co-worker had a friend who has a large curious collection of old phonographs, radios, etc., and did restorations on them. So, I pestered my co-worker and we went over and had a look. I now have over 100 sets, but it all started when I purchased my 1933 Majestic model 59! It was the appearance that appealed to me the most, with its jukebox deco look. Trying to find someone to make it work (after waiting several months for a step-down power transformer from 240v to 110v) made the restoration a slow process!

I finally persuaded our local electronics man to change the caps and get it going. It still did not pull in the stations as I had hoped it would, but luckily a retired chap who lived locally in Orange, who had been a designer with AWA (Amalgamated Wireless Australia) and eventually had his own business, came to the rescue, as his radio enthusiasm had not abated!

First off, a handy circuit was provided by John Stokes of New Zealand, author of 70 Years of Radio Tubes and Valves and More Golden Age , which showed up faults like the aerial coil being wired back to front and upside-down! Someone had tried to make it work better years ago and had altered the circuit, which was soon put right. One of the unique design features is the way the 6F7 is used, but it is incorrectly stated in Riders as a reflex circuit!

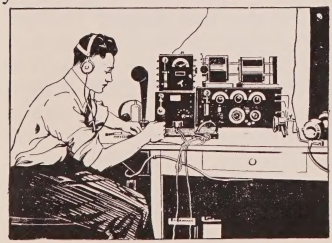
All that was required now was a good set of tubes, even though all of the originals were still operating in their Majestic bases! I achieved what I set out to do, and my restored Majestic 59 became a useful item for listening to Sydney stations like 2UE and 2GB which incidentally are call signs little changed from the amateur era!



From Page 6

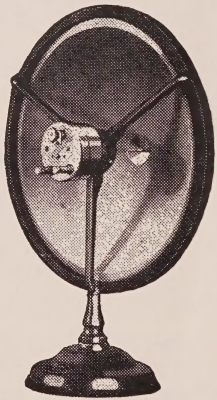
The fussy cabinet is made up of veneered birch, very much resembling Queensland maple, and the supposed black ebony is merely birch painted over in black. This was not an easy set to repaint (see photo), with much masking tape and countless retouches required to get it right. It only took me 3 years as I did put it off numerous times until I discovered a plastic wood product that enabled me to retouch the missing veneer back to perfection. The speaker had to be replaced and an AWA Permag speaker was used in the place of the original Magnavox speaker, which simply perished from sheer age! Now that I have seen hundreds of sets from around the world, I can honestly say that this Majestic is truly unique in appearance and function. Another unique aspect of the design of this model is the fact that the chassis is mounted sideways inside the cabinet, making it very easy to tip over!

The only vintage American sets found in Australia are pre-1930, which makes my set extremely rare here! New Zealand is a different matter, with some of the best American sets sold there until 1938. It is disheartening to note that the Majestic company folded up, the year after this set was made.



had survived into 1933, because it was a simple TRF circuit and required fewer parts than a superheterodyne set, and could be built for less money. But, by 1933 the improved performance of a superheterodyne radio, automatic volume control, cabinet styling and other features caused the Pee Wee to fade. A June 1933 RR magazine trade-show listing showed 26 low rectangular mantel sets, and 6 midget cathedrals of which only 2 were Pee Wees. Pee Wees were disappearing from the market.

The front cover photograph is a Dwarf Pee Wee made by Dwarf Radio of Los Angeles, (Richard Gray Collection).



GAZETTE DEADLINES

All ads, material and articles for SCARS *Gazette*:

February issue . . . . .December 1
May issue . . . . . March 1
August issue . . . . . .June 1
November issue . . . .September 1

THE VICTOR R-32

(As seen by a serviceman)

By Henry R. Kuhn
W8ERG / AAR5VL

The excellent article in the May issue of the Gazette covering the Victor R-32 radio and associated models brought back many memories.

In 1929 I first heard an R-32 in the radio department of L. Bamberger & Co. store in Newark, N.J., where I worked at their radio station WOR after school and Saturdays as a "gofer boy." I was fascinated by the excellent tone. My folks were considering the purchase of a new radio to replace the 1924 Malone and Lemmon battery set console which, by means of a driver adaptor, played through our Victrola horn. I begged and pleaded with Mom and Dad to consider the R-32 but to no avail as they bought a Freshman Model N with the sliding front doors that Mom preferred. The Freshman had a single '50 for the audio output which drove a Peerless dynamic speaker, the cone of which had all the compliance of the Berlin Wall.

Three years later I was to start a career as a radio serviceman, and since I was no longer a member of the school orchestra, I turned to playing in a band which became my first contact with PA equipment. The megaphone long used by singers was slowly being replaced by a microphone. Radio service and PA service were closely allied fields.

Radio service gave me hands-on contact with the R-32 and the series of Victor radios along with some of the problems. Power transformer failures were common, often for no other reason than shorted filter components. The receivers had some problems but these were minor.

The majority of the owners had long forgotten that these sets had a tone control in an out of the way location next to the hum balance pot on the amplifier chassis. When we got these sets into the shop we would call the customer's attention to the existence of the tone control and that we could relocate it so that they could make the desired tone correction. In the R-32 we would put it in place of the unused radio phono switch.

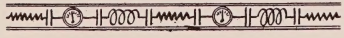
This appealed to most customers who were delighted with the results. It also brought in a couple of extra dollars which made the boss happy. In those days before the "New Deal" every dollar was important.

In the spring of 1932 the Victor amplifiers, as used in the R-32, appeared on the surplus market with an average price of $7.50. A set of off brand tubes could be purchased for less than four dollars. I bought one of these and with the addition of a '24A pre-amplifier, mounted in the phono motor AC source socket, it could work from a carbon microphone through an input transformer. The formidable appearance of the amplifier made it easy to sell. We used it with the

band for a brief period, after which I sold it to another band with the appropriate accessories. The matching speakers never appeared but it was an easy matter to adapt other types. The supply of these amplifiers seemed to be inexhaustible so I continued to buy and sell them.

1932 was the year of the "horsepower race" and the meager four or five watts from these amplifiers became a factor in selling them. The time for serious change had arrived. The magazines that catered to the Radio Service market, in their PA sections, wrote of "Class A Prime" circuits with '45 tubes in push pull that could deliver 10 to 15 watts. A single '26 was not good enough to drive the '45's to high level audio. Without altering the appearance of the amplifier I changed the input to the '45's to a driver transformer and the output to a multi-tap secondary type. Changing these transformers was simple. I heated the cans on a hot plate to remove the tar and the transformers which simply dropped out.

Initially I used a '45 to drive the push pull '45's which now had a fixed bias. Later when the "new" 53 tubes were introduced I used one as a push pull driver and the other as a phase inverter. '57's were used as microphone pre-amplifiers while an '83 was used as the rectifier. The result was 15-17 watts of clean audio.



At the moment I still have one of the Victor amplifiers using the tubes and circuitry in the preceding paragraph. I also have two more unconverted models and one functioning receiver plus the speaker. Why so many of these amplifiers became available is unclear. Perhaps Victor planned to make a "Model B" that never materialized and they elected to liquidate the overrun. Many were sold to the service trade as a low cost source of replacement parts. Radio receiver design as seen through the eyes of a professional serviceman is far removed from those of the owner or collector. All sets do not fail but those that do, bring to the surface fundamental problems. The simplicity of the R-32 and its family gave it lasting endurance. Many were still in service up to the war years, the odd ball pilot lamp not-withstanding.

The periodic service meetings at the RCA distributor would bring the many maintenance problems into sharp focus. In the early thirties RCA problems were abundant. 1934 was the year of change and on page 8 of the 1935 issue of RCA Service Notes, attention is called to their efforts to facilitate easier repair of the their line of receivers. The chassis illustrated on that page is the C-15-3 which in five bands covers 140 kHz to 70 MHz, and which I use as my general coverage receiver to support my ham radio activity to receive SSB, CW, & AM signals.

Next year Mr. Kuhn will celebrate his 60th year in radio repair. Editor

A digital age

With each passing day it is becoming more and more apparent that the old technologies are being completely superseded by the new. This is apparent in all facets of our lives, none the more so than in electronics. The world is no longer viewed in an analog frame, but the digital view is taking precedence. In the home entertainment market the analog approach is rapidly disappearing, soon the vinyl disc and analog magnetic tape will no longer be available, not to mention radio transmission methods, which can now be so easily set up using digital signals transmitted via satellite. The message in all this, and many other things you may like to add such as architecture, points to the fact that the Digital Age has indeed arrived.

Of course there are still "Luddites" around who will decry all of this, and it is a pity that their view is able to influence some of the products that are key links in an otherwise perfect chain. One of the greatest "weak links" is the analog loudspeaker. This component has remained essentially the same since Rice and Kellog developed the moving coil version of this instrument many years ago! Surely with a total digital approach in audio reproduction this throwback to the past is ludicrous. Not only this, but the perfect, pure digital signal has to be converted to analog in order to drive this monstrosity. Now any engineer will tell you that the most crucial part to design is the digital to analog converter, so why do it, when with the digital L.S. we could have Boolean accuracy from compact disc right through to the L.S.? Another weak link would be removed, the analog power amplifier; a digital P.A. is easy to design, and can offer the high power outputs that are so much in demand by the public at large.

There remains but one flaw in bringing this to perfect fruition, that being the other end of the chain, the original material and microphone used to record it.

In the past it has been up to the producers of the programme, whether speech or music, to introduce improvements to fidelity, so I suppose one should wait and see how they will progress down this particular road.

Already audio signals are converted to digital as soon as possible after the microphone in order to facilitate the processing necessary to produce the sounds the modern customer demands.

The time of the purely digital microphone cannot be far off, and this will remove the need to have an analog to digital converter as the first weak link.

Having obtained the perfection of a totally digital audio chain there but remains the material to be recorded.

It will be apparent to all you digital engineers that, for instance, music is still "played" on analog instruments some of which date back in centuries in concept! This is obviously an even worse throwback than the analog L.S. and microphone. Already the "tastes" in musical composition are verging to the digital, you only have to spend a few hours in a typical record shop, or listen to Radio 1 or Radio 5. Much of this material is composed with state of the art synthesis and merging, so why not throw away the old instruments, or put them in a museum, and be digital throughout?

The precedent to this argument is that in the past musical tastes have been dictated by the reproduction methods available. For example early jazz sounds OK on an acoustic wind-up gram, 1930's music is good on equipment of that era, reggae was developed for the 'Ghetto Blaster', 1990's music is for the Midi and Walkman, classical had a comeback during the 1960's and 70's because it did credit to the Hi-Fi of that period. (Remember it?)

It strikes me, that in this new digital world, whereas I'm using new technology to write this letter it is still being printed in old type characters, a concept that introduces much complexity in hardware and its understanding, (spelling etc.) so in conclusion: - - 0100010000001111000001100001 . . . . . .

Ray Whitcombe

(Reprinted from the Bulletin of the British Vintage Wireless Society, March 1991.)

Down Under

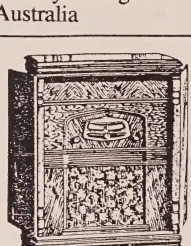
Thought I would write to respond to Doug Houston's excellent article on Victor/RCA which sorted out a puzzle for me with an His Masters Voice advert, as I knew that HMV did not make the RE-45 Victor! Perhaps HMV may have been the last company to cross from Gramophone to radio. There obviously must have been a tie-up with RCA at the time, but I'm not sure how this tie-up was arranged with regard to marketing the Victor RE-45.

Darryl Kasch, Maryborough
Queensland, Australia

It's Here!

MICRO-SYNCHRONOUS RADIO!

The climax of 32 years devoted to sound development . . . the radio and musical surprise of your life.



"His Master's Voice"
RADIO-GRAMOPHONE

HERE is a radio that reproduces both broadcast and recorded music with all the details and subtle variations of tone without distortion—the first and only radio approved by the world's great artists. It is "H.M.V." built throughout, and new in every detail from radiotrons to speaker. The super-automatic tuning gives every station PLAINLY AND PERMANENTLY VISIBLE—and obtainable simply by turning the knob to right or left. Unparalleled reproduction of recorded music.

PRICE £125 Complete with 10 Radiotrons.

DEMONSTRATIONS WITHOUT OBLIGATION; GLADLY ARRANGED. SPECIAL BOOKLET AND COMPLETE CATALOGUES POST FREE ON REQUEST WITH NAME OF NEAREST DEALER.

The GRAMOPHONE CO., LTD.
163 PITT ST., SYDNEY.

VICTOR

I enjoyed the article on the Victor Micro-Synchronous radios in the May edition of the Gazette. I have been fortunate enough to have repaired one of the R-35 units in very recent years and recall quite well the construction of the tuner assembly on that rascal. Amazing!

Sam W. Wrenn
Arlington, TX

TRIGATRON

Noticed in the last issue of the Gazette, page 19, a short paragraph about an unknown tube that was discussed during the San Diego meet. From your description I can forward the following: A British "Trigatron" type CV-125, used in some WW-II radars. It is a spark gap type of trigger for generating high power pulses. Typical operation was 12 KV, 800 pulses per second, 0.9 microsecond pulse. All into a 50 ohm line. The tube is filled with 95% Argon, 5% Oxygen, 1-5 atmosphere pressure. Anode and Cathode Moly, Trigger Tungsten. See Radiation Lab Volume 5, "Pulse Generators", page 332. I too have one of these and it took me a while to find it in the Rad Lab series.

Fredrick G. Suffield, P.E.
Sequim, Washington

CONTEST

At the next meeting we will have an equipment contest which will be officiated by Richard Gray. There will be three judged categories and one non-judged. The following is a list of the categories and the judging criteria.

(1.Depression Radios which originally sold for under $20.00
(A. Appearance. How well did the designer accomplish a low cost set with an interesting or attractive appearance?
(B. Circuitry. How well did the radio perform for the components available at the time of manufacture?
(C. Condition.
(D. Presentation. Schematic, manuals, advertisements, etc.

(2.Transistor Radios made before 1960.
(A. Good representation of early state of the art.
(B. Condition.
(C. Style.
(D. Presentation. Schematic, manual, advertisements, case/box, etc.

(3. Microphones.
(A. Condition.
(B. Presentation. Manuals, specifications, articles, photos of the microphone in use, etc.

(4. Tubes. Non -judged.
Out of the ordinary, unusual, odd, beautiful, colorful, old, unidentified, historic, or whatever you feel will be of interest to everyone.

FOOTHILL AUCTION

Mike Adams, our Northern California representative, has informed us that the California Historical Radio Society, CHRS, will hold its next quarterly meeting on Saturday, August 3rd, 1991, at Foothill College (Lot T) in Los Altos Hills, CA. The usual starting time is 6 a.m. Following the CHRS flea market, the Perham Foundation will sponsor an auction at the Foothill Electronics Museum (located next to the observatory dome at the rear of the Foothill campus) at 11 a.m. with Mike Adams as the auctioneer. Exit I-280 at El Monte Road and follow the signs to the college. The purpose of this auction is to sell those artifacts that are not museum quality or are duplicate items that won't have to be stored when the museum moves out on September 15th. The Perham Foundation has been meeting with the directors of the San Jose Historical Museum in Kelly Park. Kelly Park plans to become a major complex of museums within the next ten years and may be an ideal location for the new electronics museum. We'll keep you updated.

AUCTION RESULTS

Once again the closing event of our annual May meeting was a well-attended auction. With over 60 bidders in attendance, a total of 44 items were bid for, ranging in value from $3.00 to $150.00. In addition, a number of items were donated to SCARS by club members. A total of $307.00 was earned for the SCARS general fund.

Our thanks to Mike Adams, of Northern California fame, for his outstanding and enjoyable auctioneering skills. My special thanks to Mary Curry, Dorothy Paul and Bob Baumbach for their untiring efforts in assisting me with all of their behind-the-scenes participation.

Joe Knight

MINUTES OF LAST MEETING

The meeting was once again held in Torrance on a beautiful sunny morning and the swap meet was going strong by 7:00 a.m. with lots of members selling their wares and others looking for that great bargain!

At 11:15 a.m. President Bob Baumbach called the business meeting to order.

Membership Secretary, Dan Mason, gave his report stating that we had an additional 14 new members since our last meeting raising our total membership to 679.

Treasurer, Murrell Crump, then reported that the club was in great financial shape.

There was a break for lunch, after which the main event, the annual auction, took place with Mike Adams acting as our very capable auctioneer!

There were many items slated for the auction, from books to large console radios. Our thanks to Mike for doing an excellent job.

Pam Davies
Secretary

TELEGRAPHY SELF TAUGHT
A COMPLETE MANUAL OF INSTRUCTION
EDISON
HANDY ELECTRICAL DICTIONARY
COMPLETE CONCISE CONVENIENT
OPERATORS' WIRELESS TELEGRAPH & TELEPHONE HAND-BOOK
LAUGHTER
ELECTRICIAN'S OPERATING & TESTING MANUAL
HORSTMANN & TOUSLEY
$0.50
$1.00
$1.00
$1.50
ELECTRICITY MADE SIMPLE
BY HASKINS
$1.00
$1.50
PRACTICAL ARMATURE AND MAGNET WINDING
HORSTMANN & TOUSLEY
PRACTICAL ARMATURE AND MAGNET WINDING
$0.50
$1.50
STORAGE BATTERIES
STORAGE BATTERIES NUGLEY
$1.00
$1.00
$1.50
MODERN WIRING DIAGRAMS AND DESCRIPTIONS FOR ELECTRICAL WORKERS
ILLUSTRATED
NEW REVISED AND ENLARGED
WIRING DIAGRAMS AND DESCRIPTION
First Steps in Electricity
OR
ELECTRICITY FOR BEGINNERS
FOR HOME STUDY
ELEMENTARY CHEMISTRY
SELF-TAUGHT
FOR HOME STUDY
ELEMENTARY ELECTRICITY
UP-TO-DATE
MODERN ELECTRICAL CONSTRUCTION
HORSTMANN & TOUSLEY
Modern Electrical Construction

For Sale or Trade & Want Ads

ADS MUST BE SUBMITTED EACH TIME FOR EACH PUBLICATION AND ARE FOR PERSONAL USE ONLY. SCARS WILL NOT PRINT REPETITIOUS ADS. ALL ADS ARE SUBJECT TO EDITING. SCARS IS NOT RESPONSIBLE FOR ANY TRANSACTION OR THE CONDITION OF ITEMS ADVERTISED.

WANTED: I found a speaker for an Echophone Model "C" at the last Torrance meet. I want it! Richard Gray 9181 Chesapeake Dr. San Diego, CA 92123 (619) 560-4162.

FOR SALE: 60 ARRL Handbooks, 1943 thru 83. Also old electronic books. Riders Radio 8, 9, 12, mint. Priced to move. SASE for list. WANTED: for my collection pre-1940 ARRL Handbooks. WA7IHN P.O. Box 442 Aumsville, OR 97325 (513) 749-1149.

WANTED: Speaker for Model 51 G-E; complete tuning shaft for AK-55; cabinet and speaker for Philco chassis 16 code 122: high impedance speaker for Everready Model 44. FOR SALE. 16" turntable REC-O-KUT Movieola editor-viewer. George E. Brehm 13402 Leibacher Ave. Norwalk, CA 90650-3524 (213) 864-8857.

WANTED: Majestic 5LA5 year 1951; Bendix 0516A year 1946; Philco 50-921 1950 year; General Electric 100 and 200 1946-47 year. Wesley Neese 500A East 87th St., New York, NY 10128 (212) 628-2139.

FOR SALE: Over 100 different type receiving vacuum tubes. Send SASE for listing. J. Johannessen 76632 Morocco Rd. Palm Desert, CA 92260.

WANTED: Transistor radios made in Japan or America. Generous prices paid, or will trade transistor sets. Eric Wrobbel 20802 Exhibit Court Woodland Hills, CA 91367 (818) 884-2282.

WANTED: Round glass and dial for R.C.A. T4-8A cathedral. Dial and glass, also chassis, for Philco 37-670. (I have tubes and cabinet.) Dial glass for 1938 Scott Phantom. Dial glass and metal frame for Philco 39-40 code 121. Dial for Philco model 70 cathedral. Don Armstrong 28 La Verne Ventura, CA 93003 (805) 642-6030

WANTED: 1932 Issues of "Radio" magazine. Floyd Paul 1545 Raymond Av. Glendale, CA 91201 (818) 242-8961

TRADE: Will trade De Forest and other early radios and speakers for exterior horn phonographs. Tom Wilson 5257 Dahlia Dr. Los Angeles, CA 90041 (213) 255-7956

FOR SALE: Marconi Wireless Telegraph Co. stock certificate. $12 ppd. Also, Galena crystal receivers and parts. Write for details. Very sensitive and selective circuit developed. WANTED: Weston Type 891 meter for parts. Write. L. Gardner 458 Two Mile Creek Rd. Tonawanda, NY 14150 (716) 873-0447.

WANTED: Crosley 37-tube WLW console radio, model 3716. I will pick up anywhere in the country. Jim Clark 1292 Starboard Okemos, MI 48864 (517) 349-2249.

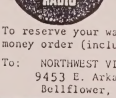
WANTED: Tube manual listing types VT-1 thru VT-289. Tube manual listing transmitting tubes such as #5514 and UV-204A. Sam W. Wrenn 2314 Seminole Dr., #1207 Arlington, TX 76010.

WANTED: Book "All about Vertical Antennas" by Are and Cowan; two Eby 4 prong tube sockets; Gillfilan Gm2 Neutrodyne receiver. Tad Drogoski 507 Coal Valley Rd. Jefferson Boro, PA 15025-3703.

1930'S ZENITH LOGO WATCH

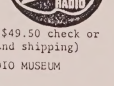
Beautifully reproduced on a black dial Goldtone Quartz Watch with over 1" face (men's) 3/4" face (women's) A leather band & 1 year warranty.

Logo A



State Logo A or B Preference Men's or Women's Style

Logo B



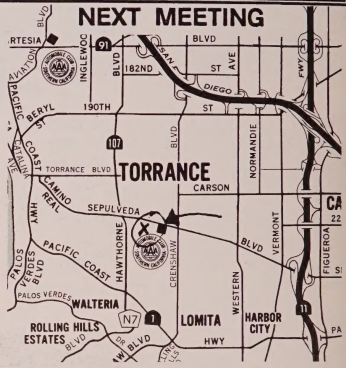
To reserve your watch send $49.50 check or money order (includes tax and shipping)

To: NORTHWEST VINTAGE RADIO MUSEUM
9453 E. Arkansas St.
Bellflower, CA. 90706

The preceding ad is run to help Frank & Mary Rasada reach their goal of opening a new radio museum early next year in Multlomah, OR. Editor

Upcoming SCARS Meets:

Aug 17, 1991
VELVET TURTLE
3210 West Sepulvada Blvd
Torrance,CA



First Van Nuys Mini-Meet !

Sept 21, 1991
Saint Andrew's Church
15520 Sherman Way
Van Nuys, CA

Take the Sherman Way offramp off of the "405", go 1 block East and you're there! We will have a catered lunch at 11:00 AM of the best BBQ in the San Fernando valley! Send $9.75 per lunch to Murrel Crump by 13 Sept. The Allstar Inn at 15711 Rosco Blvd. (818) 894-9341 ,(the offramp 1 mile north of Sherman Way), has a double occupancy rate of $30.32, but be sure to make a reservation! We will have a show and tell after the lunch so bring an interesting item from your collection for us all to see. The San Diego mini-meet was a big success and this meet promises to be the same. See you there. Bruce Stark